

Soil Study Guide Answer Key

List the organic ingredient(s) in soil.

Humus: decomposed remains of plants, animals and their waste.

List the inorganic ingredient(s) in soil.

Weathered rock particles such as clay, silt, sand, and even gravel; air, water, and minerals (Organic means living or once alive)

List the three major components of weathered rock in order from smallest to largest.

Clay, silt, sand (gravel could also be placed on this list)

What is loam made of and why is it a good soil for most plants?

Loam has humus, which provides the nutrients plants need to survive and grow. It also contains somewhat equal amounts of the different sized rock particles (clay, silt, sand). This combination of organic and inorganic materials helps provide the right amount of space in the soil for water and air that plants also need.

How is humus formed and why is it important?

Humus forms when plants and animals die and are broken down by decomposers (see below)

Sometimes too much rain washes nutrients and minerals down to the “B” horizon. What would a plant need in order to get some of these essentials for growth?

Some plants have particularly long roots that can grow deep enough into the subsoil to get the nutrients and minerals that are washed down by heavy amounts of rain.

Besides climate and soil composition, what else helps geologists classify soil into different types?

The most common plants found in an area (such as prairie grasses or northern forest trees), the composition of soil (such as sandy or rocky), and the climate (including average temperatures and precipitation) all help geologists classify soil.

What two important jobs are done by decomposers in soil?

Decomposers break down (decay) dead plants, animals, and waste to form humus. Other decomposers, such as earthworms, help mix and aerate the soil bringing nutrients back to the topsoil (horizon A) and making spaces for plant roots, water, and air.

How do burrowing animals help make soil better for plant growth?

Burrowing animals such as moles help mix the soil and create spaces for water and air. They also allow water to reach further down into soil horizon C and the bedrock below so that the rock can continue to weather and create more soil.

Draw a picture of the three major soil horizons plus bedrock. Label each horizon.

Horizon A = topsoil (contains humus)

Horizon B = subsoil

Horizon C = weathered bedrock third down

Bedrock on the bottom

You must also be familiar with manipulated variables, responding variables, and constants related to our soil lab.